

WHAT IS CLAIMED IS:

1. A moving picture transmission system using a modified MPEG coding method, comprising;
  - a video processing unit, comprising,
    - a signal processor adapted to receive a video signal and convert the video signal into digital video data when it is an analog video signal, and
    - an MPEG encoder adapted to encode the digital video data according to temporal correlation using a modified MPEG coding method that fixes an object, selected as a reference frame of inter-frames in each Group of Pictures (GOP), to an intra-frame, and adapted to output frames comprising the encoded digital video data;
  - a transmission unit, comprising,
    - a transfer buffer for temporarily storing selected ones of the frames of encoded digital video data,
    - a transfer frame selector adapted to transmit the selected frames of encoded digital video data from the video processing unit to the transfer buffer when remaining capacity of the transfer buffer is larger than a set value, the transfer frame selector dropping a frame outputted from the video processing unit when it is an inter-frame and a remaining capacity of the transfer buffer is smaller than the predetermined value, the transfer frame selector dropping all frames of a GOP to which a current intra-frame belongs when a frame transmitted to the transfer buffer immediately preceding the current intra-frame is an intra-frame and the remaining capacity of the transfer buffer is smaller than the set value, the transfer frame selector transmitting the current intra-frame to the transfer buffer when the frame transmitted to the transfer buffer immediately

preceding the current intra-frame is an inter-frame and the remaining capacity of the transfer buffer is smaller than the set value, and

a transmission unit adapted to extract the encoded video data temporarily stored in the transfer buffer and convert it into a transmission standard that meets a network state to transmit it; and

a storage unit, comprising

a storage frame selector adapted to receive from a user a number of frames to be recorded per unit time, to determine an integer value  $N$  by dividing a maximum number of frames outputted from the video processing unit per unit time by the number of frames to be recorded per unit time, storing one frame for every  $N$  frames for each GOP of the encoded video data transmitted from the video processing unit, and dropping other frames, and

a moving picture database for storing the frames selected by the storage frame selector.

2. A moving picture transmission method, comprising:

(a) processing a moving picture signal received from a moving picture input device to convert it into ordered data, and encoding the data using a modified MPEG coding method that fixes an object, selected as a reference frame of inter-frames in each Group of Pictures (GOP), to an intra-frame and to output frames comprising the encoded digital video data;

(b1) confirming a remaining capacity of a transfer buffer when at a start of a new frame of the encoded digital video data,

(b2) transmitting a current frame through the transfer buffer when the remaining capacity of the transfer buffer is larger than a set value,

(b3) dropping the current frame when the remaining capacity of the transfer buffer is smaller than the set value and the current frame is an inter-frame, and

(b4) dropping all frames of a group of pictures (GOP) to which the current frame belongs when the current frame is an intra-frame, a frame transmitted through the transfer buffer immediately preceding the current frame is an intra-frame, and the remaining capacity of the transfer buffer is smaller than the set value, and transmitting the current frame through the transfer buffer when the frame transmitted through the transfer buffer immediately preceding the current frame is an inter-frame, to transmit the encoded video data in real time at a data loss rate adapted to a variation in a network transmission rate; and

(c1) receiving from a user a number of frames to be recorded per unit time, and determining an integer value  $N$  by dividing a maximum number of output frames of the video data encoded at the step (a) per unit time, by the number of frames to be recorded per unit time, and

(c2) storing one frame for every  $N$  frames for each GOP of the encoded video data and dropping the other frames, to store the encoded video data in the number of storage frames per unit time previously set.

3. A moving picture transmission method, comprising:

(a) processing a moving picture signal received from a moving picture input device to convert it into ordered data, and encoding the data using a modified MPEG

coding method that fixes an object, selected as a reference frame of inter-frames in each Group of Pictures (GOP), to an intra-frame and to output frames comprising the encoded digital video data;

(b1) confirming a remaining capacity of a transfer buffer when at a start of a new frame of the encoded digital video data,

(b2) transmitting a current frame through the transfer buffer when the remaining capacity of the transfer buffer is larger than a set value,

(b3) dropping the current frame when the remaining capacity of the transfer buffer is smaller than the set value and the current frame is an inter-frame, and

(b4) dropping all frames of a group of pictures (GOP) to which the current frame belongs when the current frame is an intra-frame, a frame transmitted through the transfer buffer immediately preceding the current frame is an intra-frame, and the remaining capacity of the transfer buffer is smaller than the set value, and transmitting the current frame through the transfer buffer when the frame transmitted through the transfer buffer immediately preceding the current frame is an inter-frame, to transmit the encoded video data in real time at a data loss rate adapted to a variation in a network transmission rate.